

Title (en)
LASER WELDED PLASTIC INTERCOOLER

Title (de)
LASERGESCHWEISSTER KUNSTSTOFF-LADELUFTKÜHLER

Title (fr)
REFROIDISSEUR INTERMEDIAIRE EN PLASTIQUE SOUDE AU LASER

Publication
EP 1957928 A4 20090729 (EN)

Application
EP 06840439 A 20061211

Priority
• CA 2006002005 W 20061211
• US 74916305 P 20051209

Abstract (en)
[origin: US2007131401A1] An intercooler assembly includes a housing that defines an internal space containing a plurality of tubes. A joint between a tube and a tube plate is created by a laser welding process. A form presses the walls of the tube outwardly to form the flange. The downward force of the form not only creates the desired flange, but also exerts a pressure that holds the flange against the tube plate. The form provides for the transmission of laser energy to that the creation of the flange can be performed concurrently with the welding process.

IPC 8 full level
F28F 9/18 (2006.01); **B29C 65/16** (2006.01); **F02B 29/04** (2006.01); **F28D 7/10** (2006.01); **F28F 9/26** (2006.01)

CPC (source: EP US)
B29C 65/1635 (2013.01 - EP US); **B29C 65/1654** (2013.01 - EP US); **B29C 65/1664** (2013.01 - EP US); **B29C 66/1222** (2013.01 - EP US); **B29C 66/1224** (2013.01 - EP US); **B29C 66/1226** (2013.01 - EP US); **B29C 66/53465** (2013.01 - EP US); **B29C 66/80** (2013.01 - EP US); **B29C 66/81267** (2013.01 - EP US); **B29C 66/81422** (2013.01 - EP US); **B29C 66/81463** (2013.01 - EP US); **B29C 66/8161** (2013.01 - EP US); **B29C 66/8322** (2013.01 - EP US); **B29C 66/8432** (2013.01 - EP US); **F02B 29/0462** (2013.01 - EP US); **F28D 7/08** (2013.01 - EP US); **F28D 7/085** (2013.01 - EP US); **F28D 7/1615** (2013.01 - EP US); **F28F 9/02** (2013.01 - EP US); **F28F 9/0219** (2013.01 - EP US); **F28F 9/187** (2013.01 - EP US); **F28F 21/062** (2013.01 - EP US); **B29C 65/1667** (2013.01 - EP US); **B29C 66/652** (2013.01 - EP US); **B29C 66/73921** (2013.01 - EP US); **B29C 66/8242** (2013.01 - EP US); **B29K 2995/0027** (2013.01 - EP US); **B29L 2031/18** (2013.01 - EP US); **F28D 2001/0273** (2013.01 - EP US); **F28D 2021/0082** (2013.01 - EP US); **F28F 2275/062** (2013.01 - EP US); **F28F 2275/065** (2013.01 - EP US); **F28F 2275/067** (2013.01 - EP US); **Y02T 10/12** (2013.01 - EP US)

Citation (search report)
• [Y] US 2005247442 A1 20051110 - DALY PAUL [US]
• [Y] US 3489209 A 19700113 - JOHNSON HERBERT G
• [Y] US 3426841 A 19690211 - JOHNSON HERBERT G
• [Y] US 2003029040 A1 20030213 - CESARONI ANTHONY JOSEPH [CA], et al
• See references of WO 2007065271A1

Cited by
CN109425255A

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
US 2007131401 A1 20070614; **US 7628883 B2 20091208**; EP 1957928 A1 20080820; EP 1957928 A4 20090729; EP 1957928 B1 20120201; WO 2007065271 A1 20070614

DOCDB simple family (application)
US 63687706 A 20061211; CA 2006002005 W 20061211; EP 06840439 A 20061211